obvious"); *In re Woodruff*, 919 F.2d 1575, 1578 (Fed. Cir. 1990) ("slightly different ranges of carbon monoxide concentration" not sufficient for patentability absent a "showing that the claimed range achieves unexpected results relative to the prior art range").

Petitioners' claim in this case is a textbook example of a claim that is obvious in view of the ranges disclosed in the prior art. Eleven of Yoshinari's disclosed ranges completely encompass petitioners' claimed ranges. Pet. App. 4a. The only element that falls partially outside Yoshinari's general range—chromium—is only .2 weight percent below Yoshinari's preferred range. Moreover, the Board found that "a person of ordinary skill in the art would have recognized the suitability of adjusting the content of the disclosed elements within the disclosed ranges." *Id.* at 21a. Thus, the Yoshinari patent either completely encompasses or substantially overlaps each claimed range. In effect, petitioners are claiming Yoshinari's superalloy using a subset of Yoshinari's ranges.

3. Petitioners concede "[t]here are many cases in which claimed ranges should be found *prima facie* obvious in view of prior art encompassing or overlapping ranges." Pet. 17. Petitioner's central contention is that the court of appeals held that "*any time* a claimed range is encompassed or overlapped by a prior art range * * *, it is *prima facie* obvious." Pet. 9 (emphasis added). The court of appeals, however, did not purport to establish such a "mechanical" rule. Pet. 7.

Instead, the court of appeals simply reiterated and applied the general rule that petitioners concede is proper. The court of appeals stated only a presumptive rule for "this type of claim." Pet. App. 4a. The Board expressed the same point, stating that a "*prima facie*

case of obviousness *typically* exists when the ranges of a claimed composition overlap the ranges disclosed in the prior art." Pet. App. 21a (emphasis added). As the court of appeals recognized, an unwavering rule in those circumstances is not warranted because "a disclosed range might become too broad to teach a subset range." *Id.* at 7a (citing *In re Peterson*, 315 F.3d 1325, 1330 n.1 (Fed. Cir. 2003)). An invention that significantly narrows a broad range, and as a result teaches an invention that one skilled in the art would not have discovered based on the prior art, can be non-obvious.

The decision below is in harmony with prior cases recognizing that a narrow overlap within a broad range may be consistent with a finding of nonobviousness. For example, there is no conflict with *In re Baird*, 16 F.3d 380, 383 (Fed. Cir. 1994), in which the court of appeals stated that "a disclosure of millions of compounds does not render obvious a claim to three compounds, particularly when that disclosure indicates a preference leading away from the claimed compounds." The court of appeals here agreed that "a disclosed range might become too broad to teach a subset range." Pet. App. 7a (discussing *Peterson*).

Petitioners argue that this case fits within the *In re Baird* and *In re Peterson* exception to obviousness for overly broad ranges. According to petitioners, the Yoshinari patent "ranges encompass millions, if not billions, of possible alloys." Pet. 12. As the court of appeals explained, however, the ranges set out in the Yoshinari patent, when compared to the ranges set out by petitioners, are not too broad to teach a subset range, Pet. App. 7a-8a, particularly when the teachings of the Yoshinari patent are considered. As the Board found, Yoshinari's preferred embodiments and examples pro-

vide a road map that would lead a person of ordinary skill in the art directly to the ranges claimed by petitioners. *Id.* at 21a.

In short, this case represents a routine application of the settled rule that an overlap of ranges generally creates a presumption of obviousness. The court of appeals expressly recognized that not every overlap warrants the presumption, but concluded that this case was typical and governed by the general rule. There is no need for the Court to review that narrow factbound determination.

4. Petitioners claim that the prima facie obviousness inquiry "must be based on all of the facts." Pet. 8 (emphasis omitted). See Pet. 17-18. In petitioners' view, the prima facie inquiry must account for all of the obviousness factors set out in *Graham* v. *John Deere*, *supra*. Pet. 8-9. That assertion is incorrect. The purpose of the "initial inquiry" is to provide a structured process for the development and consideration of the relevant *Graham* factors. The initial examination in this case focused on the overlap with the prior art, which then placed the burden on the applicant to refute the presumption of obviousness or face rejection. Petitioners' view that all the factors are to be considered at the initial prima facie stage would eliminate the well-established and sensible prima facie process.

5. Petitioners incorrectly claim that the decision below "makes it impossible" for any patent applicant claiming overlapping ranges to avoid the presumption of obviousness. Pet. 19. The court of appeals expressly stated that the prima facie presumption could be overcome if, for example, the overlapping ranges led to "unexpected results." Pet. App. 9a. Rather than bar all overlapping claims, the court of appeals narrowly held

that this particular patent application did not teach anything unexpected. The claimed alloy cannot qualify as non-obvious because it is similar in composition and qualities to alloys described in the prior art. *Ibid.* The court of appeals stated the proper rule of law and applied it to the facts of this case. Further review is not warranted.

CONCLUSION

The petition for a writ of certiorari should be denied.

Respectfully submitted.

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DECEMBER 2005

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Supreme Court, U.S.
FILED
DEC 16 2005
OFFICE OF THE CLERK

No. 05-378

In the Supreme Court of the United States

KENNETH HARRIS AND JACQUELINE B. WAHL,
Petitioners,

v.

JOHN DUDAS, Acting Director,
United States Patent and Trademark Office,
Respondent.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

PETITIONERS' REPLY BRIEF

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PETITIONERS' REPLY TO RESPONDENT'S BRIEF

Respondent has argued that the Federal Circuit Court of Appeals' decision involves nothing more than a routine application of existing law, which is consistent with its prior holdings. This ignores the fact that *In re Peterson*, 315 F.3d 1325 (Fed. Cir. 2003) was decided without considering the principal issue raised in this case, namely whether a broad overlapping prior art range, which encompasses a huge number of compounds, renders prima facie obvious a very much smaller range of compounds covered by the patent application claims. The Federal Circuit decision ignores its own footnote in *Peterson* to the effect that this issue could have been raised but wasn't, and hence was not considered in deciding *Peterson*. Instead, the Federal Circuit has decided this case as though this issue had been decided in the affirmative in *Peterson*. In addition, the Federal Circuit has held that it is not even possible to overcome such a prima facie obviousness rejection with evidence of surprising and unexpected results, since the claimed compounds are representative of the prior art, even though the prior art does not in any way exemplify them!! In so doing, the Federal Circuit has established a devastating precedent which renders unpatentable substantially all nickel super alloys, as well as a host of other similar types of inventions.

The Federal Circuit Court of Appeals has rendered a decision that undeniably holds that all claims defining an invention in terms of numerical ranges for variables are *prima facie* obvious if the prior art has very broadly defined the universe of possible ranges, regardless of whether the prior art discloses an infinite or indeterminate number of distinct possibilities, the purpose of the prior art disclosure, and contrary preferences expressed by the prior art. Each of these

factors was brought to the attention of the court, but was disregarded. No consideration was given to the relative breadth of the claims with respect to that of the prior art disclosure. The court's mere comparison of selected facts in *Peterson* to those of the present case cannot suffice, since this issue was not considered in *Peterson*. No consideration was given to the fact that it is not a routine matter to deviate from well established preferences in the field of nickel super alloys. No consideration was given to the fact that Yoshinari et al. (See C.A. App. A56-A72) are merely defining a broad range of potential nickel super alloys that could be utilized in practicing their claimed turbine blade product invention—not a super alloy invention. Finally, no consideration was given to the fact that Yoshinari et al. merely echoes well established preferences that lead away from the claimed invention.

Rather than considering the facts of the case, the Federal Circuit Court of Appeals affirmed *prima facie* obviousness based on unsubstantiated conclusions supported by clichés and false logic.

Respondent argues that this is a typical case of overlapping ranges. Resp. 4. However, the court has not established a basis for concluding that this is a typical case, nor provided guidelines for determining what constitutes a typical case. As a consequence, the court has established an inflexible rule of law that a disclosure defining the universe of possibilities for a particular field of endeavor is sufficient to establish *prima facie* obviousness with respect to an infinite number of individual species which have yet to be discovered or even contemplated. The absurdity of this new law is that it places form over substance, providing a convenient and easily applied rule that disregards what the prior art is actually teaching.

This decision conflicts with this court's decision in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966) which requires consideration of all relevant facts of record. This decision also conflicts with *In re Baird*, 16 F.3d 380, 383 (Fed. Cir. 1994), which states that an extremely broad disclosure does not render *prima facie* obvious a narrowly defined invention encompassed by the broad disclosure, particularly when the disclosure indicates a preference leading away from the claimed compounds, as in the case under consideration. This decision is also in direct conflict with footnote 1 of the Federal Circuit Court of Appeals' *In re Peterson* decision, which recognizes impliedly that an extremely broad disclosure does not render *prima facie* obvious a narrowly defined invention which is neither taught nor suggested by the broad disclosure. *Peterson*, 315 F.3d at 1330.

The recent decision of the Federal Circuit Court of Appeals in *In re Kumar*, 418 F.3d 1361, 1366 (Fed. Cir. 2005) states that a *prima facie* case of obviousness may be made when the only difference from the prior art is a difference in the range or value of a particular variable. This does not suggest that the relative narrow breadth of a claimed invention to that of a broad disclosure in the prior art is irrelevant, or that preferences in the prior art leading away from the claimed invention are irrelevant. These factors must be considered when presented.

Respondent's argument that this is a typical textbook example, similar to previous cases such as *In re Woodruff*, 919 F.2d 1575 (Fed. Cir. 1990) is incorrect. Resp. 8. The relative breadth of the prior art disclosure to that of the narrowly defined invention in this case is much greater than that of *In re Woodruff*, and unlike *In re Woodruff*, there are

preferences in the prior art leading away from the claimed invention.

The Respondent has incorrectly argued that "[t]he only element that falls partially outside Yoshinari's general range-chromium- is only .2 weight percent below Yoshinari's preferred range." Resp. 8. Yoshinari et al. state that the preferred tantalum content is 3-4%, which is also outside of the scope of the claimed invention. C.A. App. A67, col. 8, lns. 45-51.

Respondent has argued that the Federal Circuit Court of Appeals has not created a "mechanical" rule that *prima facie* obviousness is established whenever the differences between a claimed invention and the prior art resides in the breadth of one or more ranges for a variable, since the Court has recognized (*Peterson*, 315 F.3d at 1330, n. 1) that a disclosed range might become too broad to teach a subset range. Resp. 8-9. However, this case involves disclosed ranges that are too broad to teach the claimed subset ranges, and disclosed preferences that lead the person of ordinary skill in the art away from the claimed invention. Respondent adds that "an invention that significantly narrows a broad range, and as a result teaches an invention that one skilled in the art would not have discovered based on the prior art, can be non-obvious." Resp. 9. This is not the rule of this case. If it were, the invention of Harris et al. would have been found non-obvious.

Respondent has argued that the extremely broad ranges of Yoshinari et al. (which were intended to encompass substantially all nickel super alloys) are not too broad to teach a subset range, particularly, since Yoshinari's preferences "provide a road map that would lead a person of ordinary skill in the art directly to the ranges claimed by petitioners."

Resp. 9-10. The preferences do not provide a road map to the invention, but instead lead away from the invention, whose novelty resides in the employment of an unconventionally lower amount of chromium, in combination with an unconventionally higher amount of tantalum.

Contrary to the Respondent's position, this is not the routine case where a person of ordinary skill in the art can employ simple inexpensive test procedures to optimize within a preferred range. It is an atypical case in which expensive research, involving thousands of hours of continuous testing under high strain, high temperature conditions must be conducted to characterize a casting prepared from a single alloy, and in which the investigator, unguided by the prior art, must employ unconventional amounts of chromium and tantalum, contrary to the preferences disclosed in the prior art. There is nothing routine about any of this. If this is not the atypical case in which patentability should be found based on the failure of the prior art to suggest a narrowly defined invention within an extremely broad disclosure, there is no such case.

While Petitioners believe that they and the public will be better served by focusing on the issue *of prima facie* obviousness, Respondent has incorrectly stated that the decision of the Federal Circuit Court of Appeals in this case does not make it impossible for a patent applicant claiming overlapping ranges to overcome the presumption of obviousness. Resp. 10. The court has created an inflexible rule in which an invention that differs from the prior art only with respect to narrowly defined variables within a broad prior art disclosure is *prima facie* obvious, and that any example of the invention is equally representative of the prior art and cannot be used for demonstrating unexpected results, thereby making it impossible to patent the invention. This

new inflexible rule fails to account for the fact that a unique combination of narrow ranges for variables can define an invention that is neither taught nor suggested by the prior art. If the court's reasoning were applied to claim limitations that are not defined in terms of a numerical range, then all new combinations of known elements would be unpatentable, regardless of whether or not the prior art suggests the new combination.

In this case, the Federal Circuit Court of Appeals has suspended application of *Graham v. John Deere Co.* 383 U.S. 1 (1966) set aside *In re Baird*, 16 F.3d 380 (Fed. Cir. 1994) and ignored its own footnote 1 from *In re Peterson*, 315 F.3d 1325, 1330 n. 1 (Fed. Cir. 2003). At the same time, the Federal Circuit Court of Appeals has eliminated the possibility of demonstrating unexpected results in such cases, which is also contrary to *Graham v. John Deere Co.*, 383 U.S. 1 (1966). This abomination of well established patent law should not be allowed to fester and grow unchecked by Supreme Court review.

CONCLUSION

Therefore, the petition for writ of certiorari should be granted.

Respectfully Submitted,

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